

In re Application of:
Kornowski et al.
Application No.: 09/868,411
Filed: June 14, 2001
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Attorney Docket No.: MEDIV2010-2

In the claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Upon entry of the present amendment, the claims will stand as follows:

Please cancel claims 19-27, 30, 32-44, 47-57, 59-61, 64-74, 76-78, 81-86, 88, 89 and 93 without prejudice.

Please amend claims 1, 6-9, 12, 14, 31, 87, 90, 94, and 95 as follows:

1. (Currently Amended) A method of enhancing collateral blood vessel formation in a subject in need thereof comprising directly administering to sites in heart or limb tissue a composition comprising an effective amount of autologous bone marrow aspirate to induce collateral blood vessel formation in the tissue.
2. (Previously presented) The method of claim 1, wherein the autologous bone marrow aspirate is injected.
3. (Previously presented) The method of claim 1, wherein the autologous bone marrow aspirate is injected intramyocardially.
4. (Previously presented) The method of claim 3, wherein the autologous bone marrow aspirate is injected trans-epicardially or trans-endocardially.
5. (Previously presented) The method of claim 4, wherein the trans-endocardial approach is via a catheter.
6. (Currently Amended) The method of claim 1, wherein the autologous bone marrow aspirate is injected peripherally into the limb tissue intramuscularly.

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7. (Currently Amended) The method of claim 1, wherein the autologous bone marrow aspirate has been stimulated by growing in medium ex vivo ~~in culture~~.

8. (Currently Amended) The method of claim 7, wherein the autologous bone marrow aspirate has been stimulated by contact with one or more angiogenesis stimulating cytokines secreted therefrom by growing in medium ex vivo.

9. (Currently Amended) The method of claim ~~[[7]]~~ 1, wherein the ~~cytokines are selected from the group consisting of HIF-1, EPAS1, MCP-1, and CM-CSF~~ composition further comprises Monocyte Chemoattractant Protein 1 (MCP-1) or Vascular Endothelial Growth Factor (VEGF)

Claim 10. (Cancelled)

Claim 11. (Cancelled)

12. (Currently Amended) The method of claim 7, wherein the autologous bone marrow aspirate has been stimulated ex vivo in culture by transient exposure to hypoxia ~~or a form of energy~~.

Claim 13. (Cancelled)

14. (Currently Amended) The method of claim 1, wherein the autologous bone marrow aspirate is administered in combination with one or more agent selected from a pharmacological drug [,] ~~or protein, or gene selected to~~ that enhances bone marrow production of angiogenic growth factors ~~selected~~ to promote endothelial cell proliferation, migration, or blood vessel formation.

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15. (Previously Presented) The method of claim 14, wherein the autologous bone marrow aspirate and the agent or agents are administered together.

16. (Previously Presented) The method of claim 14, wherein the autologous bone marrow aspirate and the agent or agents are combined ex vivo prior to administration.

17. (Previously Presented) The method of claim 16, wherein the autologous bone marrow aspirate has been stimulated ex vivo.

18. (Original) The method of claim 1, wherein ischemic tissue is treated.

Claims 19-30. (Cancelled)

31. (Currently Amended) The method of claim [[25]] 17, ~~wherein~~ further comprising culturing the autologous bone marrow aspirate prior to (b) to form conditioned medium containing bone marrow cells and secreted angiogenic cytokines and injecting the composition derived from the autologous bone marrow growing in culture is injected into ischemic heart or limb tissue.

Claims 32-86. (Cancelled)

87. (Currently Amended) A composition ~~for the treatment of a cardiac or myocardial condition, which comprises~~ comprising an effective amount of cultured autologous bone marrow aspirate that has been stimulated ex vivo by exposure to hypoxia or an angiogenesis stimulating cytokine.

Claim 88. (Cancelled)

Claim 89. (Cancelled)

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90. (Currently Amended) The composition of claim 89, wherein the cytokines ~~are selected from HIF-1, EPAS1, is MCP-1, and CM-CSF.~~

Claim 91-93. (Cancelled)

94. (Currently Amended) The composition of claim [[89]] ~~87, wherein~~ further comprising conditioned medium ~~derived from~~ in which the autologous bone marrow aspirate ~~growing in culture has been grown is injected into ischemic heart muscle.~~

95. (Currently Amended) The composition of claim [[87]], further comprising a pharmacological drug[[,]] or protein ~~, or gene selected to that enhances~~ bone marrow production of angiogenic growth factors and/or promotes endothelial cell proliferation, migration, or blood vessel formation.

96. (Previously presented) The composition of claim 87 which further comprises heparin or another anticoagulant.

Claims 97-102. (Cancelled)

Please add the following claim:

103. (New) A method of enhancing collateral blood vessel formation in a subject in need thereof comprising directly administering to sites in heart or limb tissue of the subject an effective amount of conditioned medium in which bone marrow aspirate has been grown to induce collateral blood vessel formation in the heart or limb tissue.